REMARKS

Claims 1-14 are in the application as filed. New Claims 15 and 16 have been added herein. All claims have been rejected. Claims 5, 7, 12 and 13 have been amended herein.

Double Patenting

Claims 1-12 are provisionally rejected under non-statutory obviousness type double patenting over concurrently owned, co-pending 10/775,848. A terminal disclaimer over 10/775,848 is attached.

Rejection Under 35 USC 112

Claims 1-14 are rejected under 35 USC 112 as indefinite. The examiner objects to the use in claim 1 of the term "functional material". The term "functional material" has been replaced by "conductive material". Claim 5, 7 and 13 are also objected to as having improper Markush language. Claims 5, 7 and 13 and also 12 have been amended to use proper Markush language. Claim 13 has been made dependent upon Claim 1 as Claim 4 is now cancelled.

Rejections Under 35 USC 102

Claims 1-4, 8-10, 12 and 14 are rejected under 35 USC 102(e) as anticipated by Hirai (US 2003/0146019). Harai is cited as disclosing ink jet ink comprising 1-50% conductive functional material such as gold, silver, copper and cobalt.

Applicants respectfully disagree that their claims are anticipated by Hirai. Hirai discloses a composition with nano-sized particles. Applicant has, in the present amendment, restricted the size of its functional material in claim 1 to a particle size of greater than 0.1 to 1.2 microns (see specification at p. 5). In a dependent claim, applicant has restricted the particle size to a range of 0.3 to 0.8 microns for an average particle size (D50). In claim 1 we have also indicated that D100, the maximum particle size of the functional material (now conductive material) is 5 microns or less.

Claims 1-5, 8-10, 12 and 14 are rejected under 35 USC 102(b) as being anticipated by DE 19846096. This German reference is also directed to nano-sized materials, i.e. . . . up to 100 nm. The above amendment also avoids this reference.

Claims 1-5, 8-12 and 14 are rejected under 35 USC 102(e) as anticipated by Kodas et al. (US 1003/0175411).

Kodas et al described ink jetting **precursor** compositions of electronic conductor, resistor and dielectic compositions. The precursors are soluble organometallic materials. The precursor solution of Kodas refers to a precursor or mixture of precursors dissolved in a solvent. Kodas et al also mentioned that nano-sized particles could be mixed with precursor compositions. Applicant's claims are directed to jet compositions **with large particles and a low viscosity,** at the same time. Applicant's conductive materials are not metal precursors. Applicant directs the Examiner's attention to Paragraph's 0078 to 0118 of Kodas et al. In Kodas, the "precursor compositions . . . exploit combinations of solvents and precursors that advantageously provide high solubility of the molecular precursor while still allowing low temperature conversion of the precursor to the conductive phase. Kodas et al is not ink jetting the conductive material of the present invention. It is ink jetting a precursor solution.

Claims 1-3, 5-6, 8-12 and 14 are rejected under 35 USC 102(e) over Tucker. Tucker can be seen as in a slightly different art. It is teaching a composition for use in creating colored contact lens. There is no teaching in this reference of creating an electronic circuit. In Tucker, the colorant is a dye or pigment (the reference lists some metal oxides). Tucker does not teach the use of an electrically functional material (conducting materials) such as some of our disclosed conductors. (See spec. p. 4). Furthermore, even the pigment content in Tucker is limited to a max. of 15%. Our conducting materials content can be over 15% to 60% by weight total composition. We have added a dependent claim to a conducting material content of greater than 15 wt% to 60 wt%.

Claims 1-3, 6-9, 11-12 and 14 were rejected over Nohuchi. Once again, this citation is in non-comparable art (recording media). Noguchi does not disclose the present conductive functional materials. Further it does not appear to duplicate ink jet printing nor does it achieve the fired line width's and thicknesses applicant demonstrates in its Examples.

Claims 1-5, 8-10, 12 and 14 are rejected under 35 USC 102 (b) over Loria. Again, applicant respectfully disagrees. Loria discloses very low amounts of functional material 0.2-2 wt. %. Applicant' levels are higher. Also, there is no indication in Loria that it can achieve the line thicknesses and widths that applicants achieve.

Rejection Under 35 USC 103

Claim 5 has been rejected as obvious over Hirai in view of Zhu et al. The Examiner notes that the difference between applicant's claim and the references is the requirement of poly(meth) acrylate. The differences between the current invention and Hirai are detailed above and incorporated herein by reference.

Hirai is said to disclose ink with binder. The Examiner found it obvious to use acrylic resin in the ink of Hirai to produce ink with rapid dry time and arrive at the present invention. Hirai is limited to the use of nanosized particles. Nowhere in Hirai is there a disclosure of the use of functional material of the size currently incorporated into amended claim 1.

Claims 13 is rejected as obvious over Hirai in view of Kodas. The Examiner notes that the difference between the present claims and Hirai or Kodas is the coating of the conductor with fatty acid. Further differences are detailed above.

Shioi is cited as disclosing inks with metal powder coated with fatty acid surfactant and providing the motivation to combine Kodas and Hirai with the with fatty acid. Claim 7 is rejected over Tucker et al. which uses monomer, along with Adkins. Tucker's ink is used for the function of providing a colored lens. The purpose of the present invention is to provide an electrically functional circuit for use in electronic applications. There is no motivation to use the ink of Tucker el al. in the present application.

Adkins et al is cited as disclosing the equivalence and interchangeability of using certain organics.

In view of the foregoing discussion and amendments and new claims added, allowance of Claims 1-18 is respectfully requested.

If anything further is needed to advance the allowance of this application, please contact applicant's attorney at the telephone number below.

Respectfully submitted,

Barbara C. Siegell

BARBARA C. SIEGELL
ATTORNEY FOR APPLICANT
Registration No.: 30,684
Telephone: (302) 992-4931
Facsimile: (302) 992-5374

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